REMARKS

Claims 1-6, 8, 9, 11-14, 16, and 26-32 are currently pending in the subject application and are presently under consideration. Claim 1 has been amended as shown on p. 2 of the Reply.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Rejection of Claim 1 Under 35 U.S.C §112

Claim 1 stands rejected under 35 U.S.C §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 has been amended to overcome the rejection under 35 U.S.C. §112, second paragraph. Accordingly, withdrawal of the claim rejections and allowance of this claim is respectfully requested.

II. Rejection of Claims 1-6, 8-9, 11-14, 16 and 26-32 Under 35 U.S.C. § 102(b)

Claims 1-6, 8-9, 11-14, 16 and 26-32 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Abdelaziz *et al.* (US Pat. 7,197,565), hereinafter Abdelaziz. Claims 1 and 26 are independent claims. Reconsideration and withdrawal of the rejection of claims 1 and 26 (and associated dependent claims 2-6, 8-9, 11-14, 16, and 27-32) under 35 U.S.C. § 102(b) is respectfully requested in view of the comments below.

> For a prior art reference to anticipate, 35 U.S.C. §102 requires that "***each and every element*** as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950 (Fed. Cir. 1999) (*quoting Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)) (emphasis added).

Applicant's invention provides target object presence tracking that employs ***multicast-type messages transmitted in unicast*** to detect such target objects, where the messages are of a multicast type but are transmitted in unicast to a specific object, rather than to multiple objects as would be the case for traditional multicast messaging. As an example, the Universal Plug and

Play specification (UPnP) specifies an M-SEARCH verb that allows a UPnP client application to search for UPnP devices. *See*, *e.g.*, p.2, ll. 19-20. Rather than sending such a multicast type messages as a multi-cast datagram, in accordance with an aspect of applicant's claimed invention, it is possible to send such M-SEARCH verbs as unicast datagrams to a specific destination device. *See*, *e.g.*, p.2, ll. 25-26. The destination device can receive the M-SEARCH verb on its port and can treat the multicast-type message as if it was a search request broadcast to all devices. *See*, *e.g.*, p.2, ll. 26-28. As a result, applicant's invention provides target object presence tracking that employs ***multicast-type messages*** (e.g., such as M-SEARCH verbs) ***transmitted in unicast*** to detect such target objects (*e.g.*, send the normally utilized multicast-type message only to the one target object) to prompt a response from the selected target object. *See*, *e.g.*, p.9, ll. 25-29.

For example, a destination device can receive an M-SEARCH verb on its port and can treat the multicast-type message (sent as a unicast datagram) as if it was a search request broadcast to all devices. *See* p. 6, ll. 25-30. The device responds with a directed search response. *Id.* Thus, the response is similar to that for a multicast message, because it can be treated as if it was a response to a multicast message. As a further example, a destination device 404 can receive the M-SEARCH verb on its port and, believing it to be a general request for the device (*e.g.*, a multicast message), can treat it as if it was a broadcast M-SEARCH request (*e.g.*, a multicast message). The device 404 can then respond with a proper directed search response of "200 OK" (*e.g.*, a unicast response) indicating that it is on-line. Thus, whereas a proper response of "200 OK" to a broadcast M-SEARCH request (*e.g.*, a multicast message) is performed, the response is similar to that for a multicast message in that the response of "200 OK" is sent similar to a response for a multicast request.

As a further example, referring to Figure 3D, there is illustrated a sample UPnP protocol stack 328 used to send a multicast-type discovery datagram in unicast in accordance with the present invention. *See*, *e.g.*, p.14, ll. 26-28. The layers 302 and 304 are hosted in UPnP-specific protocols by the device architecture layer 306. *See*, *e.g.*, p.14, l. 31 to p.15, l. 3. Here the discovery request is delivered *via* a unicast variant of an HTTP layer 330 that uses an extension using SSDP methods headers. *Id.* The discovery response is delivered *via* a unicast variant of an HTTP layer 332 that has also been extended with SSDP. *Id.* The UDP layer 314 indicates that the HTTP data (330 and 332) is delivered *via* UDP over IP, as further indicated by the layer 318.

Id. Referring to Figure 4, there is illustrated a flow diagram 400 between a UPnP client application 402 and a UPnP device 404 when the UPnP device 404 comes on-line. *See, e.g.*, p.15, ll. 4-6. For discovery, the client 402 can use a GENA *NOTIFY* verb (multicast-type message) transmitted over the HTTP protocol as described. *Id.*

In contrast, Abdelaziz merely discloses a decentralized mechanism for detecting the presence of entities in a peer-to-peer networking environment. To that end, Abdelaziz discloses the notion of a communications channel as a pipe for an entity on a peer node. Thus, pipes are described as providing the primary channels for communication among peers and a mechanism for establishing communication between peers. Abdelaziz further describes pipes used as communication channels for sending and receiving messages between services or applications over peer endpoints. Communicating over the pipe may include sending messages formatted in accordance with one or more peer-to-peer platform protocols over the pipe. Messages define an envelope to transfer any kinds of data.

Thus, Abdelaziz describes generating a unique identifier that is assigned to the peer-to-peer network entity and pipe advertisement for a peer-to-peer network entity for peer-to-peer presence detection. Accordingly, a pipe advertisement describing the entity and the pipe and corresponding to the unique identifier of the entity may be generated as the identity of the entity. In addition, the entity may be moved or otherwise migrate to one or more other peer nodes to be hosted by the other peer nodes. However, Abdelaziz fails to disclose aspects of applicant's claimed invention.

In this regard, independent claims 1 and 26 facilitates determining the presence of an object on a network. In particular, independent claims 1 and 26 recite the similar limitation: ***transmitting a multicast-type message in unicast to the object***. Figure 15 and column 28, lines 15-23 are cited for support that Abdelaziz discloses transmitting a multicast-type message in unicast to the object. However, the indicated portions, as well as throughout the cited reference, fail to disclose this aspect of applicant's claimed invention.

For example, column 28, lines 15-23 describe pipes as being indiscriminate (may support binary code, data strings, Java technology-based objects, and/or applets, among others). Abdelaziz describes that any number of unicast and multicast protocols and algorithms, and combinations thereof, may be used. *Id.* Applicant's representative respectfully submit that allowing for any number of unicast and multicast protocols to be used, or combinations thereof,

does not expressly or inherently describe ***transmitting a multicast-type message in unicast to the object*** to determine presence of an object as applicant's claim.

As a further example, Abdelaziz' Figure 15 depicts using messages to discover advertisements. As described above, communicating over the pipe may include sending messages formatted in accordance with one or more peer-to-peer platform protocols over the pipe. However, "[r]egardless of transport, messages may be unicast (point to point) between two peers ***or*** may be propagated (like a multicast) to a peer group." *See* Col. 34, ll. 46-48 (emphasis added). Thus, as depicted in Figure 15, Abdelaziz describes messages used to discover advertisements either with "(propagate message 230) ***or*** alternatively a rendezvous peer (a unicast message 232). *See* Col. 73, ll. 22-24 (emphasis added). Accordingly, applicant's representative respectfully submits that using ***either*** multicast messages ***or*** unicast messages does not explicitly or inherently disclose ***transmitting a multicast-type message in unicast to the object*** to determine presence of an object as applicant's claim. Reconsideration and withdrawal of the rejection of claims 1 and 26 (and associated dependent claims 2-6, 8-9, 11-14, 16, and 27-32) under 35 U.S.C. § 102(b) is respectfully requested in view of the comments above.

Moreover, claim 1 as previously amended recites "the object having . . . a plurality of functions capable of independent presence indication associated therewith and . . . if a response is not received, the object is presumed to be off-line with respect to the first set of one or more of the plurality of functions, the object is presumed to be on-line with respect to a second set of one or more of the plurality of functions . . . ." Because Abdelaziz is silent with respect to such functionally granular presence detection, Abdelaziz cannot be said to explicitly or inherently disclose this aspect of the claimed invention. On this additional basis, the rejection of independent claim 1 (and associated dependent claims 2-6, 8-9, 11-14, and 16) under 35 U.S.C. § 102(b) should be withdrawn.

In response to arguments, it is submitted that Abdelaziz discloses transmitting a multicast-type message in unicast, multicast, or a combination to the object. Thus, it is concluded that Abdelaziz encompasses transmitting a multicast-type message in the unicast to the requested object. Applicant's representative respectfully disagrees. It is noted that no support in Abdelaziz is offered to support this conclusion. Thus, as described above, applicant's representative respectfully submits that using ***either*** multicast messages ***or*** unicast messages or a combination

still fails to explicitly or inherently disclose ***transmitting a multicast-type message in unicast to the object*** to determine presence of an object as applicant's claim.

Accordingly, reconsideration and withdrawal of the rejection of claims 1 and 26 (and associated dependent claims 2-6, 8-9, 11-14, 16, and 27-32) under 35 U.S.C. § 102(b) is respectfully requested in view of the foregoing comments.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [MSFTP506US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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